

物理基礎 練習問題 No.1-1

【1】 次の計算をせよ。

(1) $3.5 + 5.2$
 $= 8.7$

8.7

(2) $1.8 - 3.6$
 $= -1.8$

-1.8

(3) $3.14 + 2.2$
 $= 5.34$

少数の加減は、小数点を
合わせる。

$$\begin{array}{r} 3.14 \\ + 2.2 \\ \hline 5.34 \end{array}$$

5.3
(5.34) も OK)

(4) $9.80 - 6.5$
 $= 3.3$

$$\begin{array}{r} 9.80 \\ - 6.5 \\ \hline 3.3 \end{array}$$

3.3

(5) $12.22 - 4.0$
 $= 8.22$

$$\begin{array}{r} 12.22 \\ - 4.0 \\ \hline 8.22 \end{array}$$

8.2
(8.22) も OK)

(6) 5.2×2.3
 $= 11.96$

少数の乗法は、計算した後に
小数点をずらす。

12
(11.96) も OK)

$$\begin{array}{r} 5.2 \\ \times 2.3 \\ \hline 156 \\ \underline{104} \\ 1196 \end{array}$$

(7) 1.37×5.0
 $= 6.85$

6.9
(6.85) も OK)

$$\begin{array}{r} 1.37 \\ \times 5.0 \\ \hline 6850 \end{array}$$

(8) 4.6×3.6
 $= 16.56$

17
(16.56) も OK)

$$\begin{array}{r} 4.6 \\ \times 3.6 \\ \hline 276 \\ \underline{138} \\ 1656 \end{array}$$

(9) $18 \div 60$
 $= 0.3$

0.30
(0.3) も OK)

$$\begin{array}{r} 0.3 \\ 60 \overline{) 18.0} \\ \underline{180} \\ 0 \end{array}$$

(10) $22.8 \div 3.6$
 $= 6.33\cdots$

6.3

$$\begin{array}{r} \underline{\quad} \\ 3.6 \overline{) 22.8} \\ \underline{\quad} \\ \downarrow \\ 36 \overline{) 228} \end{array}$$

【2】 次の計算をせよ。

$$\begin{aligned} (1) \quad & 2.0^3 \\ & = 2.0 \times 2.0 \times 2.0 \\ & = 8.0 \end{aligned}$$

8.0
(8 も OK)

$$\begin{aligned} (2) \quad & 5.0^2 \\ & = 5.0 \times 5.0 \\ & = 25 \end{aligned}$$

25

$$\begin{aligned} (3) \quad & 10^6 \\ & = 10 \times 10 \times 10 \times 10 \times 10 \times 10 \\ & = 1000000 \end{aligned}$$

1.0×10^6
(1000000 も OK)

$$\begin{aligned} (4) \quad & 1.2^2 \\ & = 1.2 \times 1.2 \\ & = 1.44 \end{aligned}$$

1.4
(1.44 も OK)

$$\begin{aligned} (5) \quad & 10^3 \times 10^6 \\ & = 10^{(3+6)} \\ & = 10^9 \\ & = 1000000000 \end{aligned}$$

1.0×10^9
(1000000000 も OK)

$$\begin{aligned} (6) \quad & 10^5 \times 10^9 \\ & = 10^{14} \\ & = 10000000000000000 \end{aligned}$$

1.0×10^{14}
(10000000000000000 も OK)

$$\begin{aligned} (7) \quad & 10^7 \div 10^2 \\ & = 10^{(7-2)} \\ & = 10^5 \end{aligned}$$

1.0×10^5
(100000 も OK)

$$\begin{aligned} (8) \quad & 10^{12} \div 10^9 \\ & = 10^3 \end{aligned}$$

1.0×10^3
(1000 も OK)

$$\begin{aligned} (9) \quad & 2.0^2 \times 2.0^3 \div 2.0^4 \\ & = 2.0^{(2+3-4)} \\ & = 2.0^1 \end{aligned}$$

2.0
(2 も OK)

$$\begin{aligned} (10) \quad & 3.0^4 \div 3.0^5 \times 3.0^7 \\ & = 3.0^{(4-5+7)} \\ & = 3.0^6 \\ & = 729 \end{aligned}$$

7.3×10^2
(729 も OK)

【3】 次の計算をせよ。

$$\begin{aligned} (1) \quad & 3.5 + 2.0 \times 1.9 \\ & = 3.5 + 3.8 \\ & = 7.3 \end{aligned}$$

7.3

$$\begin{aligned} (2) \quad & 5.5 \times 2.0 \div 5.0 \\ & = 2.2 \end{aligned}$$

2.2

$$\begin{aligned} (3) \quad & 1.0 \times 3.5 + \frac{1}{2} \times 4.0 \times 3.0^2 \\ & = 3.5 + 18 \\ & = 21.5 \end{aligned}$$

22

(21.5 も OK)

$$\begin{aligned} (4) \quad & \frac{1}{2} \times 6.0 + \frac{1}{3} \times 6.0 \\ & = 3 + 2 \\ & = 5 \end{aligned}$$

5.0

(5 も OK)

$$\begin{aligned} (5) \quad & 1.2 \times 6.0 + \frac{1}{2} \times 1.0 \times 2.0^2 \\ & = 7.2 + 2 \\ & = 9.2 \end{aligned}$$

9.2

$$\begin{aligned} (6) \quad & 6.0^2 - 4.0^2 \\ & = 36 - 16 \\ & = 20 \end{aligned}$$

20

$$\begin{aligned} (7) \quad & (1.0^2 - 3.0^2) \div 4.0 \\ & = (1 - 9) \div 4.0 \\ & = (-8) \div 4.0 \\ & = -2 \end{aligned}$$

-2.0

(-2 も OK)

$$\begin{aligned} (8) \quad & 4.5 + 1.5 \times 3.0 \\ & = 4.5 + 4.5 \\ & = 9 \end{aligned}$$

9.0

(9 も OK)

$$\begin{aligned} (9) \quad & 2.0 \times 3.5 + \frac{1}{2} \times (-1.0) \times 6.0^2 \\ & = 7 + (-18) \\ & = -11 \end{aligned}$$

-11

$$\begin{aligned} (10) \quad & (3.0^2 - 5.0^2) \div 2.0 \\ & = (9 - 25) \div 2.0 \\ & = (-16) \div 2.0 \\ & = -8 \end{aligned}$$

-8.0

(-8 も OK)

【4】 次の方程式を解け。

(1) $x + 5.6 = 3.2$

$$x = 3.2 - 5.6$$

$$x = -2.4$$

$$\underline{x = -2.4}$$

(2) $-7.5 - x = 2.0$

$$-x = 2.0 + 7.5$$

$$-x = 9.5$$

$$x = -9.5$$

$$\underline{x = -9.5}$$

(3) $2x + 1.7 = 3.3$

$$2x = 3.3 - 1.7$$

$$2x = 1.6$$

$$x = 0.8$$

$$\underline{x = 0.80}$$

$$(\underline{x = 0.8}) \text{ も OK}$$

(4) $5.0 + 4x = 0.6$

$$4x = 0.6 - 5.0$$

$$4x = -4.4$$

$$x = -1.1$$

$$\underline{x = -1.1}$$

(5) $\frac{5}{4}x = 10$

$$x = 10 \times \frac{4}{5}$$

$$x = 8$$

$$\underline{x = 8.0}$$

$$(\underline{x = 8}) \text{ も OK}$$

(6) $\frac{1}{2}x + 3.0 = 2.0$

$$\frac{1}{2}x = 2.0 - 3.0$$

$$\frac{1}{2}x = -1$$

$$x = -2$$

$$\underline{x = -2.0}$$

$$(\underline{x = -2}) \text{ も OK}$$

(7) $\frac{3}{2}x + 3.0 = 6.0$

$$\frac{3}{2}x = 6.0 - 3.0$$

$$\frac{3}{2}x = 3$$

$$x = 2$$

$$\underline{x = 2.0}$$

$$(\underline{x = 2}) \text{ も OK}$$

(8) $2.0 \times 1.5 \times x = 5.0^2 - 4.0^2$

$$2.0 \times 1.5 \times x = 25 - 16$$

$$3x = 9$$

$$x = 3$$

$$\underline{x = 3.0}$$

$$(\underline{x = 3}) \text{ も OK}$$

(9) $4.5 = x + 2.0 \times 1.5$

$$4.5 = x + 3$$

$$-x = 3 - 4.5$$

$$-x = -1.5$$

$$x = 1.5$$

$$\underline{x = 1.5}$$

(10) $1.0 = x \times 2.0 + \frac{1}{2} \times 4.0 \times 2.0^2$

$$1.0 = 2x + 8$$

$$-2x = 8 - 1.0$$

$$-2x = 7$$

$$x = -3.5$$

$$\underline{x = -3.5}$$